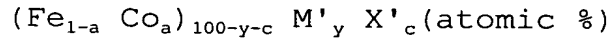


ABSTRACT OF THE DISCLOSURE

A low core loss magnetic alloy with a high saturation magnetic flux density, which has a composition represented by the general formula:



where M' represents at least one element selected from V, Ti, Zr, Nb, Mo, Hf, Ta, and W, X' represents Si and B, an Si content (atomic %) is smaller than a B content (atomic %), the B content is from 4 to 12 atomic %, and the Si content is from 0.01 to 5 atomic %, a, y, and c satisfy respectively $0.2 < a < 0.6$, $6.5 \leq y \leq 15$, $2 \leq c \leq 15$, and $7 \leq (y + c) \leq 20$, at least a part of an alloy structure being occupied by crystal grains having grain size of not larger than 50 nm, a saturation magnetic flux density B_s being not less than 1.65T, and a core loss P_{cm} per unit volume in conditions at 80°C, $f = 20$ kHz, and $B_m = 0.2\text{T}$ being not more than 15 W/kg.